

EE/ CprE 491 – ssddec18-19 Weekly Report

9/24/18 – 10/8/18

Group number: 19

Project Title: Design and Implementation of a small scale standalone Hybrid Solar PV and Wind Energy Generation System

Client & Advisor:

Venkataramana Ajjarapu

Team Members/Role:

Christopher Goodrich: Circuit Design Lead

Taylor Mullen: Testing Engineer

Kenny Nguyen: Webmaster/Circuit Design Engineer

Damon Stubbs: Software Lead

Andrew Wassenaar: Team Leader

Past Week Accomplishments:

- **Order resistors needed for resistor bank.**
- **Sat down and had conversation with ETG and moving forward with the lab setup and changes needed to be made for future expansion.**
- **Looked at circuitry and named what wires were going to what component in order to help speed up wire management and fixing circuitry.**

Pending Issues:

- **Material for resistor bank needs to be defined and order.**
 - **Idea is to use either aluminum, tempered glass, or ceramic.**
 - **We can also use a combination of all the materials.**
 - **Length and width of the resistor bank needs to be feasible and also have enough space so that there's no interference between parts.**
- **Found more components in circuitry that was burnt out, need to order additional parts.**
- **Currently the system is not properly grounded so that the system is not as safe. Will continue to make sure that there are no live wires or no live bolts in the system.**
- **The layout out our lab equipment in awkward and impractical for lab. After communicating with ETG, we are looking at ideas to improve our lab booth set up.**

- **ETG is going to help add another conduit in the lab room, also will remodel the lab room by adding tables, a cabinet, for our current setup.**

Individual Contributions:

Name	Individual Contribution	Hours this Bi-Week	Cumulative Hours
Christopher Goodrich	<p>This week I worked on organizing the circuit. I separated signal wires from power wires from power wires. I added in new jumpers for our battery cells, new bolts for the batteries and charged the batteries. I also helped set up a meeting and provided feedback to ETG on what we intended to do with the project. This next week, I will be working on getting our ground rail connected to the circuit breaker grounds and continue organizing the circuit. I am going to work with Taylor and Kenny to make a schematic of our circuit that maps all the connections before we pulled everything apart and put it in a new lab booth. That will all be taking place soon hopefully the next couple of weeks.</p>	6	74
Taylor Mullen	<p>Gathering resources to start building the schematic with Chris in the next couple weeks. Have chosen to work with Eagle schematic software for schematic as well as assist in researching user manuals/datasheets for schematic.</p>	6	50
Kenny Nguyen	<p>Continued to talk to ETG about resistor bank. Will order the rest of the parts needed for resistor bank and order other components that are burnt out. Find all datasheets for</p>	8	61.5

	components inside circuitry. Will continue to work on website and keeping documents in order. Will continue to help Chris with building the schematic and ordering other parts if needed.		
Damon Stubbs	Worked on identifying problems with Arduino and potential additional coding needed. Completed all programming needed with resistor program for feasibility. Introduced to LabView basics. Will continue to look at possibly implementing LabView to display system properties as well as research any datasheets Chris comes across that he needs help with.	6	66.5
Andrew Wassenaar	Worked on presentation and planned with Professor Ajarapu about his future plans for the lab and the lab space. Continued writing the final deliverable lab document, and finalized part one for focus group testing. Helped devise plan for circuit rebuild later on in the semester. I will write and test one experiment of the lab document each week. I will also begin building the resistor bank once all materials have arrived.	5	66

Plans for coming 2 Weeks:

- **Create schematic for overall project, with components and how they function with one another.**
- **Start revising lab documents and doing parts of the labs that can be done with the current set up.**

- **After figuring out material used to create resistor bank, create resistor bank.**
- **This Wednesday, meet with ETG to find out the full scale of the remodeling being done in the lab and where they will be placing the circuitry.**
- **Continue rewiring and fixing up wiring in the circuitry and making sure the system is safe for use.**